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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,828	02/08/2005	Grant Berent Jacobsen	01435.0207-00000	3990

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EXAMINER	
KOSLOW, CAROL M	

ART UNIT	PAPER NUMBER
1755	

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/523,828	JACOBSEN ET AL.	
	Examiner	Art Unit	
	C. Melissa Koslow	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

This action is in response to applicants' amendment of 16 August 2006. The indicated allowability of claims 1-15 is withdrawn in view of the newly discovered references. Rejections based on the newly cited references follow.

The disclosure is objected to because of the following informalities: On pages 6 and 8, "SIR^*_2" should be "SiR^*_2". Appropriate correction is required.

Claim 10 is objected to because of the following informalities: "SIR^*_2" should be "SiR^*_2". Appropriate correction is required.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not explicitly state the α-olefin can be 1-octane as claimed in claim 13.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-14 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,783,512.

This reference teaches a supported catalyst produced by mixing, in a solvent, (a) an ionic activator comprising a cation and an anion containing a moiety having an active hydrogen and (c) an organometal compound; adding the support (d), which is pretreated silica, and then adding (b) a transition metal compound (b) (col. 18, lines 16-25; col. 17, line 65-col. 17, line 15 and col. 17, lines 1-11). Examples 5 and 6 and column 14, line 64 through column 25 teach the

pretreated silica can be one that is pretreated with a trialkylaluminum compound, which suggests the use of any trialkylaluminum, such as the claimed triisobutylaluminum. The preferred transition metal compound is a metallocene having a formula which includes the compounds of claim 10 (col. 12, line 57 through column 13, line 20 and examples 1-6). The preferred ionic activator is trialkyl ammonium tris-(pentafluorophenyl)(4-hydroxyphenyl) borate, (col. 8, lines 60-64 and examples). The organometal compound can be an alumoxane, such as that having the formula $R_2Al\text{-}O(\text{-}Al(R)\text{-}O)_m\text{-}AlR_2$, where R can be a C1-10 alkyl and m is 1-50 (col. 13, line 62-col. 14, line 4). This includes the claimed tetraisobutyldialuminoxane. Column 19, lines 3-5 teach the molar ratio of (a) to (c) is 0.05-1000:1, which includes the claimed 20:0.1, or 200:1. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). Thus the reference suggests the claimed method of preparing a supported transition metal catalyst.

Column 19, line 13 through column 20, line 67 teaches using the catalyst produced by the above method to polymerize, under polymerization conditions, ethylene, propylene and combinations of ethylene and/or propylene with at least one other α-olefin having 2-8 carbons, such as 1-butene, 1-hexane, 1-octane and 4-methyl-1-pentane. The process can be preformed in the gas, slurry or solution phase. The reference suggests the claimed polymerization process.

Claims 1-15 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,271,165.

This reference teaches a supported catalyst produced by mixing, in a solvent, (a) an ionic activator comprising a cation and an anion containing a moiety having an active hydrogen and (c) an organometal compound; adding the support (d), which is pretreated silica, and then adding (b) a transition metal compound (b) (col. 25, lines 37-40; col. 26,.lines 58-col. 27, line 3; col. 29, lines 9-17 and examples). Examples 5, 6, 10-21 and column 24, lines 13-42 teaches the pretreated silica can be one that is pretreated with a trialkylaluminum compound, which suggests the use of any trialkylaluminum, such as the claimed triisobutylaluminum. The preferred transition metal compound is a metallocene having a formula which includes the compounds of claim 10 (col. 17, line 26-col. 21, line 22 and examples). The preferred ionic activator is trialkyl ammonium tris-(pentafluorophenyl)(4-hydroxyphenyl) borate, (col. 13, lines 10-14 and examples). The organometal compound can be an alumoxane, such as that having the formula $R_2Al\text{-}O(\text{-}Al(R)\text{-}O)_m\text{-}AlR_2$, where R can be a C1-10 alkyl and m is 1-50 (col. 22, line 65-col. 23, line 10). This includes the claimed tetraisobutyldialuminoxane. Column 29, lines 62-65 teaches the molar ratio of (a) to (c) is 0.05-1000:1, which includes the claimed 20:0.1 or 200:1.Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). Thus the reference suggests the claimed method of preparing a supported transition metal catalyst.

Column 30, line 6 through column 31, line 46 and the examples teaches using the catalyst produced by the above method to polymerize, under polymerization conditions, ethylene, propylene and combinations of ethylene and/or propylene with at least one other α-olefin having

2-8 carbons, such as 1-butene, 1-hexane, 1-octane and 4-methyl-1-pentane. The process can be preformed in the gas, slurry or solution phase. Example 12 teaches the gas phase polymerization occurs in a fluidized bed gas phase reactor. The reference suggests the claimed polymerization process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
September 22, 2006

C. Melissa Koslow
Primary Examiner
Tech. Center 1700